REMARKS

Reconsideration is respectfully requested, for the rejection of the claims as anticipated by or obvious over SHEFFIELD U.S. Patent No. 5,097,786.

In SHEFFIELD, a completely different structure from the claimed invention is shown. In order to lower or raise jackets 100 of offshore platforms from the seabed, a semi-submersible barge having multiple ballast tanks 3 in series is connected to the floating structure via long rods 23a and a pivoting stabilizer 23. The system of SHEFFIELD is suitable for "deeper" waters, as longer semi-submersible barges may be employed or multiple barges may be linked to provide the number of ballast tanks required (see column 5, lines 9-16 and 31-47 of SHEFFIELD). During lowering, the rods 23a pivot, whilst the tanks 3 are selectively ballasted.

As is recited in SHEFFIELD's column 5, lines 49-61, the water inlet ports and outlet ports 20 of each ballast tank 3 are controlled independently to determine the degree of flooding of the ballast tanks. The ballast tanks are thus not in continuous communication with the environment to prevent collapse of the ballast tanks at great water depths. Open connection of all the ballast tanks in SHEFFIELD would cause all the tanks simultaneously to flood, which would be contrary to controlled lowering and raising of the jackets (see column 2, lines 3-12 of SHEFFIELD). Instead, the inlet and outlet ports of SHEFFIELD are

closed and selectively opened on the basis of a pressure differential between the inside and the outside of the tanks, that is detected by pressure sensors 47a, 47b for ballasting and deballasting control. Thereby, a stable operation is achieved, suitable for deep and rough seas. Clearly, the lowering of heavy objects, free from the floating structure (that is, not rigidly attached thereto) to much greater depths, at which compression of air and accordingly reduced buoyancy and strength problems become an issue, is not at all a problem for SHEFFIELD, who mentions the North Sea (column 5, line 62) which in fact is not so deep as to crush the closed ballast tanks of SHEFFIELD. The ballast tanks 3 in SHEFFIELD are formed of regular airtight bulkheads 104 at predetermined locations along an existing barge (see column 5, lines 11 and 12 of SHEFFIELD).

By contrast, the present invention is a flexible construction adapted for use at great depths. The depth to which it can be lowered is limited only by the length of the cable 29 and the air hose 11. No special care need be taken to open and close ballast tanks, as continuous ballasting and deballasting is achieved by the open construction of the chamber, that is, open to the ambient sea, with continuous air supply as needed to increase the pressure above the water in the tank.

Another very clever aspect of the present invention is that, in the single tank such as 5 of the present invention, continuously opened to the ambient sea, the pressure above the

water in the tank can be enormously changed at the same time that the volume of the air above the water in the tank does not much change. This is because, at great depth, say, 10 atmospheres (about 330 feet) the air inside the tank would be at 10 atmospheres and hence there would be ten times as much air, but occupying about the same volume as initially. The multiple compartment arrangement of SHEFFIELD, requiring more chambers the greater the depth to which the device is sunk, is thus avoided. The trick, of course, is to have the tank open to the sea continuously, and to connect it to air supply via a flexible hose 21 that can be of any length because it is wound on a reel. Similarly, the cable 29 can be of any length, because it is likewise wound on a reel.

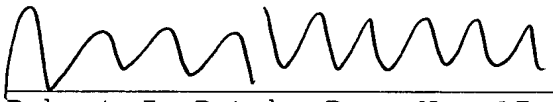
New claims 27-31 have been added, that emphasize these latter distinctions over SHEFFIELD.

As the claims now in the case are believed to bring out the novel and unobvious subject matter of the present invention with ample particularity and distinctness, it is believed that they are all patentable, and reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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